

## C L A I M S

1. Method of setting up a dialysis treatment in a dialysis machine (1) comprising the steps of:
- determining the conditions ( $U_0$ , TWL, DT) of a dialysis treatment adapted to a specific patient;
  - 5 • determining a first function ( $U(t)$ ) of a first quantity ( $U$ ) characterizing the dialysis treatment as a function of time ( $t$ ), the first function ( $U(t)$ ) satisfying the conditions ( $U_0$ , TWL, DT) of the dialysis treatment and corresponding to a curve having a defined shape;
  - 10 • determining a second function ( $C(t)$ ) of a second quantity ( $C$ ) characterizing the dialysis treatment, the second function ( $C(t)$ ) being correlated with the first function ( $U(t)$ ) by constants ( $M$ ,  $N$ ) determined experimentally and the second function ( $U(t)$ ) corresponding to a curve having a shape of the
  - 15 same kind as the shape as the first curve.
2. Method according to claim 1, wherein the dialysis machine (1) comprises:
- an extracorporeal blood circuit (4) for the circulation of
  - 20 blood in a first compartment of a dialyzer (5) having a first second compartments separated by a semipermeable membrane (7),
  - a dialysate circuit (3) for conveying a dialysate in the second compartment of the dialyzer (5), the dialysate having a defined concentration of salts which is correlated to the
  - 25 electrical conductivity ( $C$ ) of the dialysate,
  - an apparatus (2) for varying the concentration of salts in the dialysate during the dialysis treatment, and
  - an ultrafiltration pump (9) with variable delivery ( $Q$ ) for extracting plasma water from the blood circulated in the
  - 30 extracorporeal blood circuit (4) and causing a weight loss (TWL) during the dialysis treatment,
- wherein the first quantity is the weight loss ( $U$ ) in unit time which is correlated to the delivery ( $Q$ ) of the ultrafiltration pump (9), and the second quantity is the conductivity ( $C$ ) of
- 35 the dialysate.

3. Method according to claim 2, wherein the constants (M, N) comprise a first constant (M), which relates a first value ( $U_0$ ) of the weight loss (U) in unit time at the initial moment of the dialysis treatment to a value ( $C_0$ ) of the conductivity (C) of the dialysate at the initial moment of the dialysis treatment, and a second constant (N) that relates the difference between the first value ( $U_0$ ) and a third value ( $U_f$ ) of the weight loss (U) in unit time at the final moment of the dialysis treatment to the difference between the second value ( $C_0$ ) and a fourth value ( $C_f$ ) of the conductivity (C) of the dialysate at the final moment of the dialysis treatment, the first and third values ( $U_0$ ,  $U_f$ ) being known from the first function.

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4. Method according to claim 3, wherein the dialysis machine (1) comprises a device (6) for setting up the dialysis treatment comprising a microprocessor (11), data input (12, 13) and a screen (13), the method comprising the steps of:

- 20 • supplying a first group of functions ( $U(t,P)$ ) characterizing the weight loss (U) in unit time as a function of time (t) and a variable parameter (P) that is correlated with intermediate values ( $U_i$ ) of each function ( $U(t;P)$ ) of the first group;
- selecting a subset of the group of functions ( $U(t;P)$ )
- 25 imposing the conditions ( $U_0$ , TWL, DT) of the dialysis treatment adapted to a specific patient;
- assigning values to the parameter (P) and displaying the curves corresponding to the functions ( $U(t,P)$ ) of the subset and to the respective values assigned to parameter (P); and
- 30 • selecting one of the functions ( $U(t,P)$ ) of the subset on the basis of the images of the curves.

5. Method according to claim 4, wherein the conditions ( $U_0$ , TWL, DT) of the dialysis treatment comprise the total weight loss (TWL), the dialysis time (DT) and the first value relative to the weight loss ( $U_0$ ) in unit time at the initial moment of the dialysis treatment.

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6. Method according to claim 4, wherein the parameter (P) is characteristic of the curvature of each first curve correlated with a respective first function ( $U(t)$ ) of the subset, and the determination of the second function ( $C(t)$ ) comprises the
- 5 steps of:
- supplying a second group of functions  $C(t, P)$ ,
  - determining a subset of second functions  $C(t, P)$  that satisfy the correlation with the first function ( $U(t)$ ) by means of the first and second constants (M, N) and are

10 parameterised with the parameter (P), and

  - supplying a second function ( $C(t)$ ) having the same value of parameter (P) as the first function ( $U(t)$ ).
7. Method according to claim 6, wherein each first curve is
- 15 displayed relative to a Cartesian system (20) on the screen (13), the parameter (P) discriminating whether the curve is a straight line, whether the curve has its curvature oriented in one direction or whether the curve has its curvature oriented in the opposite direction, and determining the degree of
- 20 curvature.
8. Method according to claim 6, comprising the step of supplying the image on the screen (13) of the second curve correlated with the said second function ( $C(t)$ ).
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9. Method according to claim 8, comprising the step of varying the value assigned to parameter (P) for altering the shape of the second curve and the respective second function  $C(t)$ .
- 30 10. Method according to one of claims 8 or 9, comprising the step of altering the second curve by varying the value of the initial conductivity ( $C_0$ ).
11. Method according to one of the claims from 8 to 10,
- 35 comprising the step of altering the second curve by varying the value of the final conductivity ( $C_f$ ).

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